Questions and Answers for Implementation of Supplemental Inspection Rules 14 CFR 121.1109 and 129.109

The following are Q & A's written to provide position/clarification regarding the development of an Operator's Implementation Plan (OIP) for compliance with 121.1109(c)(2) and the operator's "means" for addressing the adverse effects of repairs and alterations with respect to the Damage Tolerant (DT) requirements of § 25.571. Section 121.1109(c)(2) requires that the "means" for addressing the adverse effects of repairs and alterations be approved by the FAA Oversight Office. Therefore, any deviation to the approved means must be approved by the FAA Oversight Office.

Preface: Section 121.1109(c)(2) of the AASR requires that the operators' maintenance program for their airplanes include a "means" for addressing the adverse effects repairs, alterations, and modifications may have on fatigue critical structure. The "means" covers two aspects, the first being a process for addressing existing repairs (i.e., Repair Evaluation Guidelines), and the second being the actual DT data contained in published documents such as SRMs and Service bulletins as well as DT data for future repairs and for existing/future alterations.

To comply with § 121.1109(c)(2), operators will need to develop a plan for how their maintenance program will incorporate the "means" for addressing the adverse effects repairs, alterations, and modifications. In AC 120-93 and FAA Oder 8900.1, this plan is referred to as the Operator's Implementation Plan (OIP). While § 121.1109(c)(2) requires operators to incorporate the "means" into their maintenance program by 12/20/2010, it does not require operators to develop an OIP as described in AC 120-93 and AFS Order 8900.1. Nevertheless, the operator should have some form of compliance plan that will how they will maintain compliance with § 121.1109(c)(2). We therefore will refer to such a plan as the OIP in these Q & As.

The role of the OIP is to ensure that operators have the processes in place to comply with 121.1109 as they continue to repair and alter aircraft.

QUESTION 1: Is it correct to say that the OIP is not a required document? What purpose or function is the OIP intended to serve? Can an operator comply with § 121.1109(c)(2) without a PMI approved OIP?

RESPONSE 1: While there is no regulatory requirement that specifies that an operator develop a document called an OIP, the operator must be able to demonstrate to their PMI how they will incorporate the **means** for addressing the adverse effects of repairs and alterations.

In other words, what is the operator's plan to implement the **means**. The concept of an OIP is intended to streamline the FAA approval process by supporting an operator's ability to show/demonstrate compliance with § 121.1109(c)(2). The OIP is nothing more than a compliance document showing how an operator will comply with § 121.1109(c)(2). If an operator does not want to call their compliance document an OIP, that is fine as the objective will not change, that is, the operator must demonstrate how they will implement compliance with § 121.1109(c)(2).

QUESTION 2: What are the contents of an OIP?

RESPONSE 2: The Contents of an OIP:

The FAA Order 8900.1 , Volume 4, Chapter 6, Section 4, describes the OIP and directs the operator to AC 120-93, section 402, for the type of information (contents) that should be in the OIP. This information, when incorporated into the OIP, will provide the basis for operator compliance with §§ 121.1109 and 129.109.

Generally speaking, the OIP contains the processes and procedures for how an operator will incorporate into their maintenance program the "means" for addressing the adverse effects that repairs and alterations may have on Fatigue Critical Structure (FCS). In order to determine the adverse effects of repairs and alterations, a damage tolerance (DT) analysis must be performed in accordance with the DT requirements of § 25.571. The contents of the **means** are approved by the FAA Oversight office.

It is expected that operators will reference in their OIP certain existing processes and procedures that are in their FAA accepted GMM. These process and procedures may for example describe how the operator will obtain and incorporate DT data for certain repairs and alterations that affect FCS.

Once the PMI approves the OIP, the contents of the OIP will constitute the processes by which the operator will comply with § 121.1109(c)(2) The Operator will then be required to comply with all aspects of the OIP and within the time constraints specified in the OIP or time constraints that are part of a referenced existing GMM process.

SUMMARY OF THE CONTENTS OF AN OIP:

Note: The processes contained in the OIP must be incorporated into the maintenance program by 12/20/2010.

1. **Incorporation Of FCS**
   Processes and procedures for how/when/where an operator will incorporate into their maintenance program the FAA approved list of Fatigue Critical Baseline Structure (FCBS) and Fatigue Critical Alteration Structure (FCAS). The FAA approved lists of FCS is a part of the operator's means to address repairs and alterations that affect FCS. (This must be completed by 12/20/10.)
2. **Existing Repairs Affecting FCBS:**
   Processes and procedures for how/when/where an operator will incorporate into their maintenance program the FAA approved **means** that address **existing repairs** that affect FCBS. It is expected that operators will utilize the Type Certificate Holder's (TCHs) approved REG as their means to address existing repairs that affect FCBS. (This must be completed by 12/20/10.) If an operator uses information for their **means** (for existing repairs) that deviates from the ACO approved REG, the operator will need to obtain approval of these aspects of the

means from the FAA Oversight Office. The FAA Oversight Office approved **means** for addressing existing repairs must include the following:

- A process to survey each airplane; to identify all repairs that affect FCBS, collection/recording of repair configuration information, etc...
- A schedule for when the surveys are to be performed, and when FAA approved DT data is to be obtained for repairs identified in survey (that affect FCS)
- A description of how the operator will/may obtain FAA approved DT data for repairs identified in survey
- A process that describes when the DTI will be implemented for airplanes that are beyond the inspection threshold at the time the operator receives the DTI (i.e., inspection threshold).

3. **Existing Repairs affecting FCAS:**
   Processes and procedures for how/when/where an operator will incorporate into their maintenance program the FAA approved **means** that addresses **existing repairs** that affect FCAS. It is expected that operators will utilize the TCHs and STCHs approved DT data for repairs they developed for their alterations. FCAS lists (26.45(b) and 26.47(b)- DT data for repairs to alterations (26.45(d) and 26.47(d) (For discussion of schedule, see AC 120-93, paragraph 407.)
4. **Existing Alterations developed By TC And STC Holders:**
   - Processes and procedures for how/when the operator will identify all existing alterations that affect FCBS.

   Processes and procedures for how/when an operator will obtain and incorporate into their maintenance program the FAA approved **means** that addresses **existing alterations** that affect FCS. It is expected that operators will utilize the TCHs or STCHs approved DT data as the operator's **means** to address existing alterations developed by the TCH and STCH. (For discussion of schedule, see AC 120-93, paragraph 406.)
5. **Existing Alterations Not Developed by TC or STC Holders, and STC Alterations where the STC has been surrendered or the STCH is no longer in business**
   Processes and procedures for how/when an operator will obtain and incorporate into their maintenance program the FAA approved **means** that addresses **existing alterations** that are not developed by a TCH or STCH. This would include existing alterations for surrendered STCs or STCH s no longer in business. It is expected that operators will obtain third party developed DT data that is FAA approved as the operator's **means** to address these existing alterations. (For discussion of schedule, see AC 120-93, paragraph 407.)
6. **Future Repairs Developed By TC Or STC holders:**
   Processes and procedures for how/when an operator will obtain and incorporate into their maintenance program the FAA approved **means** that addresses **future repairs** developed by a TC or STC holder that affect FCS. It is expected that operators will utilize the TCHs or STCHs approved DT data as the operator's **means** to address future repairs developed by the TCH and STCH. (For discussion of schedule, see AC 120-93, paragraph 404 & 405.)
7. **Future Repairs Not Developed by TC or STC holders:**
   Processes and procedures for how/when an operator will obtain and incorporate into their maintenance program the FAA approved **means** that addresses

future repairs (that affect FCS) that are not developed by a TCH or STCH. It is expected that operators will obtain third party developed DT data (or develop it themselves) that is FAA approved as the operator's **means** to address these future repairs. The operator is responsible for obtaining or developing the DT Data and for establishing a schedule using the timelines provided in this paragraph. The schedule would include timelines for submitting the DT Data to the FAA Oversight Office for approval, and for incorporating the DTIs into the operator's maintenance program.

8. **Future Alterations Developed by TC or STC holders:**
   Processes and procedures for how/when an operator will obtain and incorporate into their maintenance program the FAA approved **means** that addresses **future alterations** developed by a TC or STC holder. It is expected that operators will utilize the TCHs or STCHs approved DT data as the operator's **means** to address future alterations (that affect FCBS) developed by the TCH and STCH. (For discussion of schedule, see AC 120-93, paragraph 408.)
9. **Implementation of DTI**
   A process that describes when the DTI are implemented (inspections conducted). Note: "The operator has an obligation to show compliance for DT data for all repairs and alterations prior to the time the threshold is reached for any inspection. (For discussion of schedule, see AC 120-93, paragraph 405.)

QUESTION 3: Section 121.1109(c)(2) of the AASR requires that the operator's **means** for addressing the adverse effects of repairs and alterations be approved by the FAA Oversight Office. What are the contents or elements of the **means** that is approved by the FAA Oversight Office?

RESPONSE 3: In section 121.1109(c)(2) of the AASR, the **means** refers to the ACO approved processes and data for addressing the adverse affects of repairs/alterations that affect FCS with respect to the damage tolerance requirements of § 25.571. This **means** and any revisions to it must be approved by the FAA oversight Office. For foreign manufactured airplane models, these approvals may be issued either by the FAA Oversight Office or by a delegated foreign authority.

The ACO approved "means" includes:

- Fatigue Critical Baseline Structure List (FCBS)
- Fatigue Critical Alteration Structure List (FCAS)
- Repair Evaluation Guidelines (process to address existing repairs)
  - A process for conducting surveys
  - A process for obtaining DTI's
  - An implementation schedule (For discussion of schedule, see AC 120-93, paragraph 216.)
- DT data for existing published repairs (SRMs)
- DT data for existing alterations
- DT data for repairs to alterations

Note: The means may be developed by a TC holder or an operator but must include the above items and be FAA Oversight Office approved.

QUESTION 4: Because there has been some misunderstanding that the OIP is or contains the **means**, can you provide a clear distinction between the PMI approved OIP and the ACO approved **means**.
For example, what types of information would be part of the OIP but not the ACO approved **means**?

RESPONSE 4: The PMI approved OIP is not the ACO approved **means** (ref 121.1109(c)(2)) nor does it contain the **means**. The OIP only contains the processes and procedures for how an operator will incorporate the ACO approved **means** into their maintenance program. Following are certain processes that are part of the OIP and not part of the **means**. The operator needs to state in their OIP for how they will incorporate the following into their maintenance program.

What the ACO approved "means" does not include:
Operator's current or new processes for:

- how DT data (inspection info and lists of FCS) is incorporated into their maintenance program,
- how operator will address **future repairs/alterations** that affect FCS with respect to DT requirements of § 25.571
- how/when DT data is obtained for **future repairs/alterations** and when it is incorporated into the maintenance program
- how/when **existing alterations** that affect FCBS are addressed for DT, and how/when DT inspection data for alteration is developed/obtained and incorporated into the operators maintenance program.
- how the operator will determine if a future repair or existing/future alteration affects FCS
- record keeping,
- tracking of repairs (inspections),
- development of inspection task cards,
- training of maintenance personnel,
- Processes and implementation schedules that are in AC 120-93 that address existing repairs that affect FCS unless the FAA Oversight Office has approved these as part of the operator's **means** to address these.

QUESTION 5: Are Operators that are subject to the requirements of § 121.1109(c)(2) required to use Part
26 compliance data developed by TC and/or STC holders?

RESPONSE 5: No, Operators are not required to use data that was/is developed by TC and STC holders for compliance with part 26. The requirements of Part 26 were/are intended to support an operator's ability to comply with § 121.1109(c)(2), that is, to enable an operator to address the adverse effects that repairs and alterations may have on fatigue critical structure. To address the adverse effects, operators will need to obtain DT data for those repairs and alterations. Part 26 supports operators by requiring TC and STC holders to develop make available to them certain DT data.

QUESTION 6: If operators use the TCH REG, are they required to use it in its entirety?

RESPONSE 6: No, operators are not required to use the REG in its entirety. Operators may limit their use of the information in the REG to the three key elements of the REG, which are discussed in **Q & A Responses 2 and 3.**
The requirements of Part 26 were/are intended to support an operator's ability to comply with 121.1109(c)(2).

QUESTION 7: If an operator chooses not use the TCH's REG, or does not want to use certain sections of the REG, can the operator use the guidance in AC 120-93 in lieu of the REG information to support development of their **means** for compliance with 121.1109(c)(2)?

RESPONSE 7: Yes, an operator can use the guidance in AC 120-93 to develop their **means**, however the **means** must be approved by the FAA Oversight Office as required by 121.1109(c)(2), which includes the 3 key elements of the REG specified in sections 216-219 of AC 120-93. Note that the TCH may have special requirements/limitations/assumptions associated with the DSG that is established by the TCH. In other words, the operator will need to obtain concurrence from the TCH regarding the DSG the operator uses for establishing the schedule for airplane repair surveys. The TCH has established an appropriate DSG for their airplanes models in their REG. Operators must be aware that DSG numbers that are not in the REG may have not been technically based, but rather based on a business (economic/sales) model of the past. This can result in airplanes being surveyed much later than what the TCH has established as being appropriate from a safety perspective.

QUESTION 8: If an operator uses the guidance in AC 120-93 to support the development of their **means** in lieu of using information in the TCH's REG, or certain sections/aspects of their **means**, will the operator be required to get these aspects of their **means** approved by the ACO?

RESPONSE 8: This question is similar to QUESTION 7 above. Section 121.1109(c) (2) requires that the operators **means** to address the adverse effects of repairs and alterations that affect FCS be approved by the FAA Oversight Office. The AC 120-93, 93 provides guidance on how to develop an OIP and approvable "means," but does not itself contain the "means." Therefore if certain sections/aspects/processes... of an operators **means** are developed using the guidance material in the AC 120-93, and these aspects/processes have not been previously approved by the FAA Oversight Office, such as those in the TCH's REG, then yes, these aspects of the **means** will need to be approved by the FAA Oversight Office.

Note: All aspects of the **means** that have NOT been previously approved by the FAA Oversight Office must be approved by the FAA Oversight Office.

QUESTION 9: An operator reported that their local FAA representative interprets the note published in the TC holder's SRM with a Dec/09 revision as being applicable to any repair installed in the past (i.e. repairs performed according to any SRM revision

prior to the Dec/09 one) and more precisely to repairs performed between the 01-Dec-09 and the actual date of the Dec/09 revision availability to the operator.

RESPONSE 9: The new note in the SRM applies to repairs installed after the SRM was revised to incorporate the note. All existing repairs (for repair with new note) that were installed before this revision to the SRM will be addressed at time of airplane survey. The REG may instruct the operator to comply with instructions in the SRM (e.g., note) for obtaining DTI for those repairs that are identified in the survey.

QUESTION 10: AC 120-93 and the example Savino Airlines OIP do not provide adequate direction as to when an operator must obtain and then incorporate the DTI into their CAMP for existing TCH and STCH alterations (DT data being made available by TCH and STCH). Is there any guidance for when the operator must obtain the DTI and incorporate it for existing alterations where TCH and STCH has made available the DTI?

RESPONSE 10: Section 407 in AC 120-93 specifies that operators should develop a timeline for when they will obtain and incorporate DT data for alterations into their maintenance program. These are items that need to be specified in the OIP. The operator has an obligation to show compliance for DT data for all repairs and alterations prior to the time the threshold is reached for any inspection. Operators may not want to purchase a compliance document (DT data) for alterations when their airplanes will not reach ¾ DSG for several years, similar to the 3 stage approval process objective for repairs. Incorporating DT data for existing TC/STC holder alterations prior to ¾ DSG is also in line with the AC 120-93 process for non TC/STC holder alterations (FAA 337 field approvals) where these are allowed to be identified at time of repair survey (3/4 DSG).

The one concern raised is the situation where an inspection threshold developed by the DAH occurs before ¾ DSG. The FAA believes that such a situation may indicate a potential unsafe condition, and therefore the TC/STC holder is obligated to inform operators if an alteration has DTI where the inspection threshold is before ¾ DSG. In such cases, the operator should obtain the DT data as soon as it is made available.

Therefore, operators are not required to obtain the DT data from TC/STC holders well before their airplanes reach their DSG. However, if an operator is informed by the TC/STC holder that an alteration will have an inspection threshold that is before ¾ DSG, the operator should obtain that DT data as soon as it is made available. **This process should be clearly defined in the operators OIP.** The PMI will work with the operator to ensure the operator will obtain the DT data and incorporate it in a timely manner.

Note: The following are acceptable timelines for submitting DT Data to the FAA Oversight Office and for incorporating the approved DTIs into the operator's maintenance program:
(1) For alterations identified through the records review (Section 407 in AC 120-93), the operator or third party-developed DT Data should be submitted to the FAA Oversight Office no later than December 20, 2012, or prior to the airplane reaching

75 percent of the design service goal, whichever occurs later. The operator should incorporate the DTI into its CAMP no later than 6 months from the date the FAA approves the data.
(2) For alterations that are found during the airplane survey for repairs, the operator or third party-developed DT Data should be submitted to the FAA Oversight Office no later than 12 months from the time of discovery. The operator should incorporate the DTIs into its maintenance program no later than 6 months from the date the FAA approves the data.

QUESTION 11: If an operator has information that indicates the STC was approved for 25.571 at amendment 25-45 or later amendments, does the operator have to seek any statement of compliance with Part 26?

RESPONSE 11: If the STC was approved on or after Jan. 11, 2008, then no further statement of compliance is required. However, if the STC was approved before Jan. 11, 2008, the operator would need obtain any list of FCAS (if any exists) that was identified and made available by the STC holder.

Part 26, required STC holders to develop and make available to the operators any list of FCAS that was part of their existing (approved before Jan.11, 2008) STC alteration.

It is an operator's responsibility to show that there are no new inspections required as a result of a DTE having been accomplished for an alteration. Therefore for known alterations they should at the very least have a statement from the STC holder as to the time of initial threshold for accomplishing any required DTI if the threshold were to occur prior to the airplane reaching 3/4 DSG. This information would need to be known for approval of the OIP. They would not need the actual DTI data until just prior to the initial threshold.

Also: the TCH/STCH's established threshold for an existing alteration must be part of FAA approved DT data (for compliance with 26.45/26.47 or 25.571) so for TCH/STCH developed alterations the operator should have at a minimum the threshold for initial inspections and that threshold should be part of an operators maintenance program.

QUESTION 12: If portions of the operator's GMM are referenced in the approved OIP, do those portions become approved by the incorporation reference?

RESPONSE 12: The answer is "YES", those portions become approved as they apply to compliance with 121.1109. Changes to the GMM referenced in the OIP must then be approved prior to use for compliance with 121.1109. The operator must submit these changes for approval and while waiting for PMI approval, continue to use the previously approved version. The approval is only applicable for compliance with 121.1109 and not for any other CAMP compliance use. Operators may consider adding a statement such as "implementation of changes will occur within 30 days from approval.

To show compliance to 121.1109 and 129.109 operators utilize a compliance document (OIP) which details the changes in the maintenance program as required by 121.1109 (c)(1) and (c)(2). Section 121.1109(c)(3) requires that the PMI approve these changes and any subsequent revisions to these programs. To comply with these rules the operator's maintenance program must include a "means" for addressing the adverse effects repairs, alterations and modifications may have on fatigue critical structure.

The means as explained in the preamble of the final rule (14 CFR Parts 26, 121 and 129, titled Damage Tolerance Data for Repairs and Alterations, published December 12, 2007) includes the following:

· List of fatigue critical structure (baseline and alteration)
· Damage Tolerance inspections (DTIs) for existing published repair data and all future repair data.
· DTIs for all existing and future alteration data.
· Repair Evaluation Guidelines (REGs) which include:
- Instructions for conducting airplane surveys;
- Instructions an operator uses to obtain DTIs; and
- An implementation schedule that provides timing for the above actions.

Items pertaining specifically to the above elements referenced in an operator's OIP that are contained in existing GMM become approved by reference and subsequently would require re-approval if changes are made.

Items referenced in an operator's GMM that do not specifically address the above items are not considered approved and changes are made in accordance with procedures previously accepted by the operator's Principle Maintenance Inspectors. An example of this would be the methods and procedures an operator uses to track compliance.

QUESTION 13: If an operator receives a Service Bulletin for existing alterations/repairs that contain revised or new DT data where the threshold or repeat interval is such that the inspection occurs soon after 12/20/10, and the SB does not provide a grace period, can the operator request a grace period be applied in order to support their maintenance scheduling for the affected airplanes?

RESPONSE 13: Yes, an operator can request through its CMO approval of a proposed grace period. The request should be submitted (via CMO) to the FAA Oversight Office having responsibility for the subject airplane model. The process will be similar to that done for AMOC requests to an AD. Coordination with the OEM may expedite the approval process..